Subject Description Form

Subject Code	**SFT302DD**
Subject Title	**3D CAD in Pattern**
Credit Value	**3**
Level	**3**
Pre-requisite/ Co-requisite/ Exclusion	Pre-requisite: SFT207DD Digital Product Creation Exclusion: ITC3208T 3D CAD in Pattern
Objectives	The subject provides knowledge of the application of 3D CAD to apparel pattern design. It trains the use of 3D CAD techniques in virtual garment assembly. It also explores the 3D CAD technique and supports all stages of the apparel product development process, including pattern design and garment styling.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: (a) understand 3D CAD systems in pattern design; (b) demonstrate the ability of using 3D CAD technologies in apparel product development, including 3D avatar customization and body fitting; (c) develop 3D patterns by virtual garment assembly; (d) make use of fabric images and properties in 3D simulation; (e) demonstrate the outfit of garment by virtual cat walk simulation; and (f) examine critically the limitations of existing 3D CAD technologies and systems.
Subject Synopsis/ Indicative Syllabus	**(I) Overview of the Virtual Garment Assembly** General sequence of garment assembly Method of garment assembly **(II) 3D Material** Calibration and identification of fabric properties **(III) 3D CAD Pattern Design** 3D pattern tracing Application of 3D CAD on style alternation & modifications **(IV) 3D Styling** Simulation of dress up sequences and poses **(V) 3D Simulation and Cat Walk Presentation** 3D rendering Cat walk runway Stage setting and lighting control

Teaching/Learning Methodology

Studio sessions will be used to deliver teaching in this subject with more interactive teaching and learning, and problem-solving. Hands-on experience with CAD and demonstrations of pattern design techniques will also be provided.

Online learning materials and self-learning exercises with step-by-step instructions will also be incorporated via LEARN@PolyU to enhance students' understanding of apparel construction.

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a	b	c	d	e	f
Continuous Assessment	**100%**	✓	✓	✓	✓	✓	✓
1. In-class exercises	*40%*	✓	✓	✓	✓	✓	✓
3. Projects	*60%*	✓	✓	✓	✓	✓	✓
Examination	**0%**						
Total	100%						

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Students will be expected to understand basic techniques of clothing CAD pattern design in this subject. Such techniques will be acquired through extensive hands-on practice and exercises. Therefore, the course will be assessed by in-class assignments. Students will also be expected to communicate effectively and think critically by applying clothing CAD to support their future careers, and such knowledge integration will be achieved through project work. In-class assignments and projects will be appropriate methods to assess students' proficiency in achieving the intended learning outcomes.

The materials submitted for this assessment must be the student's own work. The submitted work may not be accepted for the purpose of assessment if its authenticity is questionable. Submitting GenAI-generated materials as students' own work or part of their work is an act of academic dishonesty. Students who are found committing academic dishonesty will face disciplinary actions.

Adobe products are allowed to use in the assignments and projects.

<table>
<tr><td rowspan="6">Student Study Effort Expected</td><td>Class contact:</td><td></td></tr>
<tr><td>• Studio</td><td>38 Hrs.</td></tr>
<tr><td>Other student study effort:</td><td></td></tr>
<tr><td>• Self-study/Preparation</td><td>20 Hrs.</td></tr>
<tr><td>• Project/Assignments</td><td>50 Hrs.</td></tr>
<tr><td>Total student study effort</td><td>108 Hrs</td></tr>
<tr><td>Reading List and References</td><td colspan="2"><u>Books</u>

Faerm, S. (2010). Fashion Design Course: Principles, Practice and Techniques: The Ultimate Guide For Aspiring Fashion Designers. Lontoo: Thames & Hudson.

Fashionary International Ltd. (2017), Fashionpedia: The visual dictionary of fashion design.

Nugent, L. (2009), Computerized Patternmaking for Apparel Production. Fairchild Books, US.

Santamaria, G. (2014), Men in this town: London, Tokyo, Sydney, Milan, New York. Hardie Grant Books, Richmond, Victoria.

Werle, S. (2009). Fashionista: a century of style icons. Prestel Pub.

<u>User Manual</u>

OptiTex PDS, OptiGrade, OptiMark, Runway Designer (OptiTex System)
V-Stitcher PDS, Lotta (Gerber Garment Technology)
Modaris, Diamino (Lectra System)
3DsMax
Maya

<u>Websites</u>

CLO 3D, https://www.clo3d.com/</td></tr>
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